

Electronic monitoring (radio frequency or global positioning systems)

Program description:

A computer-based tracking device electronically monitors the location of an offender. Electronic monitoring devices are either radio frequency or Global Positioning System (GPS) units. Offenders are generally required to remain at home except for approved activities such as work, school, or treatment. Electronic monitoring is used for probationers, parolees, or pre-trial defendants and can be used in lieu of, or in addition to, confinement. The use of electronic monitoring varies from lower to higher risk offenders.

Typical age of primary program participant: 30

Typical age of secondary program participant: N/A

Meta-Analysis of Program Effects

Outcomes Measured	Primary or Secondary Participant	No. of Effect Sizes	Unadjusted Effect Sizes (Random Effects Model)			Adjusted Effect Sizes and Standard Errors Used in the Benefit-Cost Analysis					
						First time ES is estimated			Second time ES is estimated		
			ES	SE	p-value	ES	SE	Age	ES	SE	Age
Crime	P	16	-0.27	0.08	0.00	-0.26	0.08	32	-0.26	0.08	42

Benefit-Cost Summary

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2011). The economic discount rates and other relevant parameters are described in Technical Appendix 2.	Program Benefits					Costs	Summary Statistics			
	Partici- pants	Tax- payers	Other	Other Indirect	Total Benefits		Benefit to Cost Ratio	Return on Invest- ment	Benefits Minus Costs	Probability of a positive net present value
	\$0	\$4 438	\$12 087	\$2 221	\$18 745	\$1 067	n/e	n/e	\$19 812	100%

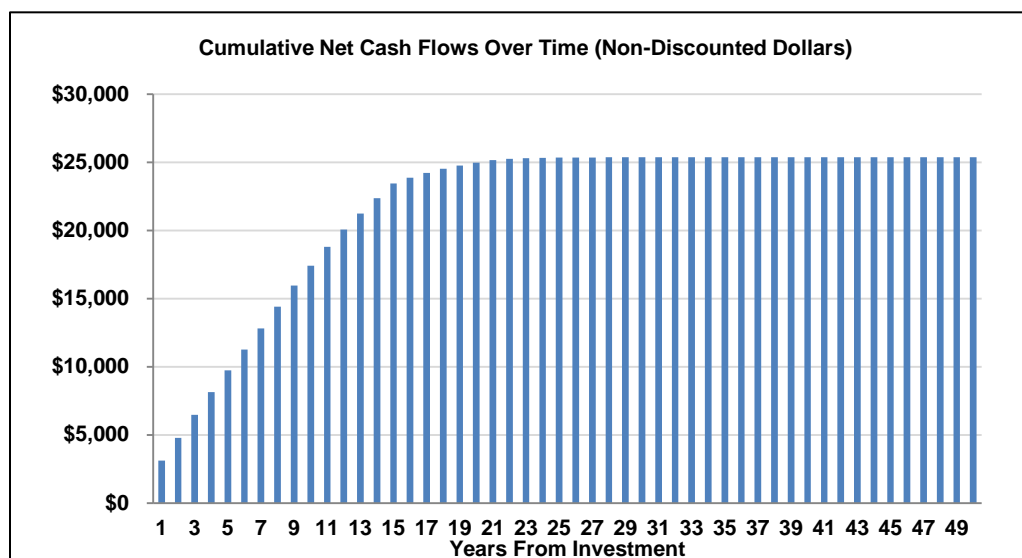
Detailed Monetary Benefit Estimates

Source of Benefits	Benefits to:				
	Partici-pants	Tax-payers	Other	Other In-direct	Total Benefits
From Primary Participant					
Crime	\$0	\$4,438	\$12,087	\$2,221	\$18,745

Detailed Cost Estimates

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The uncertainty range is used in Monte Carlo risk analysis, described in Technical Appendix 2.	Program Costs			Comparison Costs			Summary Statistics	
	Annual Cost	Program Duration	Year Dollars	Annual Cost	Program Duration	Year Dollars	Present Value of Net Program Costs (in 2011 dollars)	Uncertainty (+ or - %)
	\$377	1	2009	\$1,405	1	2009	-\$1,068	10%

Source: Electronic monitoring costs per day were provided by the Department of Corrections. The Institute calculated the total cost per participant assuming 30 days on electronic monitoring in lieu of 30 Electronic monitoring costs per day were provided by the Department of Corrections. The Washington State Institute for Public Policy calculated the total cost per participant assuming 30 days on electronic monitoring in lieu of 30 days in confinement (average daily cost for jail and prison).



Multiplicative Adjustments Applied to the Meta-Analysis

Type of Adjustment	Multiplier
1- Less well-implemented comparison group or observational study, with some covariates.	1.00
2- Well-implemented comparison group design, often with many statistical controls.	1.00
3- Well-done observational study with many statistical controls (e.g., instrumental variables).	1.00
4- Random assignment, with some implementation issues.	1.00
5- Well-done random assignment study.	1.00
Program developer = researcher	0.36
Unusual (not "real-world") setting	0.5
Weak measurement used	0.8

The adjustment factors for these studies are based on our empirical knowledge of the research in a topic area. We performed a multivariate regression analysis of 96 effect sizes from evaluations of adult and juvenile justice programs. The analysis examined the relative magnitude of effect sizes for studies rated a 1, 2, 3, or 4 for research design quality, in comparison with a 5 (see Technical Appendix B for a description of these ratings). We weighted the model using the random effects inverse variance weights for each effect size. The results indicated that research designs 1, 2, and 3 should have an adjustment factor greater than 1 and research design 4 should have an adjustment factor of approximately 1. Using a conservative approach, we set all the multipliers to 1.

In this analysis, we also found that effect sizes were statistically significantly higher when the program developer was involved in the research evaluation. Similar findings, although not statistically significant, indicated that studies using weak outcome measures (such as technical violations) were higher.

Studies Used in the Meta-Analysis

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- Petersilia, J., & Turner, S. (1990, December). *Intensive supervision for high-risk probationers: Findings from three California experiments*. Santa Monica, CA: RAND.
- Sugg, D., Moore, L., & Howard, P. (2001). *Electronic monitoring and offending behaviour - reconviction results for the second year of trials of curfew orders* (Findings 141). London: Home Office; Research, Development and Statistics Directorate.
- Turner, S., & Jannetta, J. (with Hess, J., Myers, R., Shah, R., Werth, R. & Whitby, A.). (2007, November). *Implementation and early outcomes for the San Diego High Risk Sex Offender (HRSO) GPS pilot program* (Working Paper). Irvine: University of California, Irvine; Center for Evidence-Based Corrections.